

SEVERE LOCAL STORMS.

Mr. Clarence J. Root, section director of the Illinois section, reports as follows on the storm of the 11th:

Very unusual weather conditions obtained on the 11th and 12th. The 11th was characterized by May-like temperatures, maximum readings of 72° to 80° being general. These temperatures broke all November records at about half of the stations in northern Illinois and at a number in the central counties. Cold-wave warnings for Illinois were issued with the forecast. The influence of the cold wave was felt over the northern and the west-central part of the State during the afternoon, but it did not reach the southern and eastern sections until evening. In the extreme northwest part of the State the temperature began to fall at about noon, but the "shift" did not reach the Ohio River until 9.40 p. m., or nearly 10 hours later. The beginning of the cold wave was accompanied by thunderstorms, and, in many localities, by hail and severe wind storms, some of which are said to have been of a tornadic nature. The most destructive storms occurred in Cass and Mason Counties between 4 and 5 p. m. The afternoon storms in the northwestern half of the State were more destructive than the evening winds in the other sections. In southern Illinois the temperature was above 70° in the early evening, but so rapidly did it fall in all parts of the State that the rain changed to snow in a few hours and winter weather prevailed by morning, with minimum temperatures of 8° near the Wisconsin line and of 11° within 35 miles of the Ohio River. This represents a fall of 60° to 68° in about 18 hours. The official in charge at St. Louis states that a daily range of 60° was never before equalled in any month. These minimum temperatures are probably the lowest on record for so early in the season. The violent storms caused great damage. Buildings were struck by lightning, structures damaged or destroyed by the wind, and in some places considerable loss ensued from hail. Poultry and young stock were frozen to death. Electric services suffered the most general loss. Wires and poles were blown down and wires broken by falling limbs or from the sudden contraction due to the falling temperature. These storms were somewhat unusual when the time of year is considered.

Reports given below cover the storms as far as available information will permit.

Virginia, Cass County: Virginia is the county seat, and a city of about 2,000 population. On November 11, at about 4 p. m., a severe storm struck the city. The postmaster reports that there was a tornado cloud, although the trees mostly fell to the northeast on both sides of the storm track. The storm started about 8 miles southwest of the city, moved northeast, and extended to a place 10 miles northeast of Virginia. Telegraph and telephone poles were snapped off, large trees broken or torn up by the roots, wires were a tangled mass of junk, roofs of buildings were scattered everywhere, and the whole business portion of the city was one scene of desolation and destruction. There is hardly a place from the courthouse square westward that did not receive some damage. The southeastern part of the city escaped with slight damage. The Methodist church, a modern brick structure, sustained the greatest loss. The roof and part of the walls were destroyed. Other buildings that suffered greatly are the Hotel Mann, county jail, opera house, and many business houses and lumber yards. More than 100 properties were considerably damaged. The financial loss is estimated at \$125,000 to \$150,000. Ten or twelve persons were injured, some of them seriously. It is said that two or three invalids died from shock a few days after the storm.

Mason County: The storm occurred in the eastern part of the county, between 4.30 and 5 p. m. It moved from south to north. A number of houses were blown down and one farmer suffered a loss of \$7,000. The fire bell tower in Mason City was destroyed.

The postmaster at Easton reports that the loss in his vicinity is about \$20,000, and that two persons were killed, Neota Prater, an infant, and Sarah Henninger, an elderly woman, and nine were injured.

Dupage County: Several farm buildings were damaged in the vicinity of Naperville and Eola. A funnel-shaped cloud was reported moving from the southwest; loss \$10,600 on buildings, household goods, and live stock. This storm caused some damage in the vicinity of Aurora, Kane County.

Sangamon County: Some telephone poles and wires were blown down at Springfield, but the greatest damage was caused by the storm in the southwestern part of the county. At Auburn houses and buildings were injured, and throughout the rural districts much damage ensued to farm buildings. Some horses and stock were killed, and 1 man lost 300 chickens. The hail was severe, and as many as 15 windows were broken in a single house. The hail was said to be as large as 5 inches in circumference. Great damage was done at the State game farm. Thousands of pheasants and other wild birds were killed at this place.

Illinois Traction System: This line encountered much difficulty with trolley wires throughout the system. Near Mackinaw the wind tore up 64 poles. Wires were snapped in hundreds of places.

The following are extracts taken from the reports of our observers:

La Salle: Mr. S. P. Peterson, observer. The high wind on the 11th crippled the telephone and telegraph service. It also leveled much of the standing corn to the ground, so that when the heavy rain and sleet came in the evening many ears of corn were beaten into the ground, causing the corn to mold. Lightning destroyed about \$15,000 worth of property on the 11th.

The following reports are from cooperative observers:

Dakota, Rev. G. W. Kerstetter: The storm of the 11th was very severe to the north and west of us.

Marengo, Mr. J. W. James: Fifty-one years' record, the fall of 60° in temperature, 11th to 12th, was a record breaker for any one day's time here.

Galva, Prof. F. U. White: Many buildings were struck by lightning on the 11th.

Oregon, Mr. Samuel Ray: On the 11th hail, rain, and tornadic wind destroyed many buildings. Insurance settling at Oregon agency, \$40,000.

Ottawa, Miss Maud M. Harris: Considerable damage by storm. Barns struck by lightning and destroyed.

Roberts, R. E. Bradbury: Storm that passed through here destroyed several buildings.

Tiskilwa, F. I. Smucker: In the north part of the county several houses and barns were unroofed or entirely demolished. No persons were killed, but some were injured.

TORNADO NEAR DAVENPORT, IOWA, ON NOVEMBER 11, 1911.

By J. M. SHERIER, Local Forecaster.

Just at the beginning of the remarkable fall in temperature that culminated in the severe cold wave of the 11th instant, a moderately destructive tornado first appeared at the farms of Mr. Claus Jacobs and Mr. John Balzer, 1 mile west of Davenport, on the Locust Street Road, and moved about 7 miles in a generally northeasterly direction to the southwest corner of Sheridan Township, having been last observed about 1 mile east of Mount Joy.

Both Mr. Jacobs and Mr. Balzer have said that the storm began at their homes shortly before 1 p. m., though neither could state the time exactly. Hon. Bruce T. Seaman, residing about one-half mile beyond the site of the Green Tree Tavern, nearly 4 miles northwest of this city, where the destruction was greatest, gives the time of arrival of the tornado as 1.05 p. m. Mr. John Hansen, living about three-fourths of a mile east of Mount Joy, states that the funnel-shaped cloud reached his place at 1.30 p. m.

About 20 to 30 minutes before the time of occurrence of the tornado two distinct cumulo-nimbus clouds were observed in the western and southwestern portions of the sky. At the Davenport station nothing remarkable about the cloud formation was noticed, except that some rapidly flying fracto-stratus clouds had a reddish or copper-hued tint which, in contrast with the dark thunderheads, gave the western half of the sky an unusually forbidding appearance. At the Balzer, Jacobs, and Hansen homes the characteristic funnel cloud was distinctly seen, which moved northeasterly, its tip approaching the ground until it appeared to be almost in the tops of low trees and then receding rapidly from the earth. Mr. Seaman noticed no resemblance to a funnel but states that the cloud marking the vortex was in the form of a light gray column, about 2 rods in diameter, in which the whirling motion was distinctly visible. No lightning was seen in the vortex by any of the observers interviewed.

Thunder was first noted at the station at 12.50 p. m., followed by rain at 1.11 p. m. Along the path of the tornado there was first a gusty wind, such as usually precedes a thunderstorm, then rain, followed by hail ranging in size from one-tenth to seven-tenths of an inch in diameter and lasting less than a minute, being succeeded immediately by the destructive wind. Only 2 or

3 minutes elapsed between the beginning of the gust and the arrival of the vortex. The total amount of precipitation at the station during the afternoon and evening was 0.72 inch, of which 0.66 inch, in the form of rain, was registered before 5.25 p. m. At that hour the rain became mixed with sleet, which was followed later by snow.

In addition to the whirling motion observed within the pendant cloud, the passage of a vortex over the Seaman farm was plainly indicated by the twisting off of trees several feet above the ground and by the wrenching off of young limbs only 1 or 2 inches in diameter.

The width of the storm track at the Balzer and Jacobs places was about 50 feet and the total amount of damage there is estimated at about \$250.

Mr. Seaman was a heavy loser, the damage to his house and farm buildings amounting to about \$3,000. At his place the width of the storm track was about 450 feet, with the residence near the center of the path of destruction. The roof of the house was slightly raised and sprung, without being destroyed, and the chimneys on the main part of the building were thrown down. The strength of the upward movement within the vortex was shown by the lifting of the tank house high into the air, where it was blown to pieces. Boards from the tank house were carried into a cornfield nearly half a mile almost due east of the house and the tank itself, weighing 1,700 pounds, was thrown against the hog house. The

smokehouse was wrecked; the garage was moved eastward about 25 feet from its foundation; cupolas were torn from the barns and the hog house, and the horse and cattle barn, while still standing, was so badly twisted and sprung that it will be rebuilt. The windmill tower was reduced to a tangle of angle iron and guy rods, and a heavy farm wagon that was standing in front of the hay barn was picked up and thrown upon the wreckage of a new corn crib about 200 feet to the northeastward.

After the storm, a pigeon that had been decapitated and a live chicken that had lost both eyes were found in the yard. It was at first supposed that the neck of the pigeon had been twisted off by the action of the storm, but it seems more probable that the bird's head was taken away by some bit of flying wreckage. Within the house, a trap door leading to the attic was pushed aside and light articles, such as straw hats, that were in the upper hall, were taken into the garret.

At the Hansen and Vogt places, about 3 miles northeast of the Seaman homestead, where the vortex seems to have approached the earth for the last time, the total amount of damage is estimated at about \$100.

Miss Linda Jacobs, daughter of Mr. Claus Jacobs, was slightly injured by flying glass when the windows of her home were blown in, but no loss of life was occasioned by the storm.